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Napoleon's Logistics; or How Napoleon Learned to Worry about Supply

by

Jake R. Jelineo, Major, USAF

A Research Report Submitted to the Faculty

In Partial Fulfillment of the Graduation Requirements

Advisor: Dr. Kenneth Johnson

Maxwell Air Force Base, Alabama

April 2012

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Beginning with Carl von Clausewitz, historians have been critical of Napoleon Bonaparte for what they perceived as his lack of concern over logistics throughout his career and have faulted his lack of logistical preparation for the failure of his Russia Campaign of 1812.¹ However, examination of Napoleon's military education, knowledge of current logistical practices, and his Ulm-Austerlitz and Russia campaigns reveal that he did understand the importance of logistics and that he actually developed and refined a complex logistical system throughout his military career. Specifically, Napoleon developed a new method of logistical supply by utilizing a combination of earlier practices to include François-Michel le Tellier's magazine system, the *étapes* system, and the system of contribution. Furthermore, by reconsidering Napoleon's Russia campaign with a better understanding of the supply methods he implemented reveals that Napoleon was aware of his supply limitations yet let his personal ambition overcome his discretion creating the tragic events of this campaign. Examining Napoleon's early military education reveals that the future emperor learned about logistics by studying history and through practical military experience.

In 1778, Napoleon left his native Corsica to first learn French at a clerical school at Autun, and then studied at the *Ecole Royales Militaires* at Brienne. Excelling at his studies, Napoleon graduated the school at Brienne in 1784, and then attended the *Ecole Militaire Royale* in Paris where he graduated in one year.² Napoleon's schooling at these military academies primarily consisted of a classical education in mathematics, Latin, geography, and history but also included instruction in fencing and horsemanship.³ The primary purpose of these schools was to provide France's aristocrats with an education, and not necessarily a military training.⁴ The only technical military training Napoleon was likely to have received was in artillery following his graduation from the *Ecole Militaire Royale*.⁵

While Napoleon likely received no formal military education attending either military academy, we know that he excelled at mathematics and spent a lot of time self-studying classical Greek and Roman literature, especially Plutarch and Polybius.⁶ While a good grasp of mathematics education would help Napoleon develop his logistical requirements for his campaigns, it is unlikely that his study of ancient history increased his understanding of logistics.

The classical texts of the Greeks and Romans often ignored or only discussed logistics in a fragmentary fashion. The writings of Thucydides, Herodotus, and Julius Caesar sometimes made asides describing how logistics affected maneuvers, but they never discussed how to supply a campaign.⁷ These practitioners of war and writers of history wrote for an elite audience interested in the political, diplomatic, and military reasoning contained in these texts and not the mechanics of supply, as they believed logistics were something to be handled by members of the merchant class.⁸ By reading these classical military texts, Napoleon prepared himself for his future role as Emperor, but he did not learn the intricacies of logistical planning. Therefore, it appears that Napoleon learned about the methods of military logistics only after he graduated the service academies and joined the French army.

To understand the logistical methods Napoleon developed and implemented during his campaigns, one must examine the history and development of European supply methods. Historian Geoffrey Parker describes the years from 1560 to 1660 as a period of great military changes, known as the Revolution of Military Affairs, characterized by the immense growth of European armies.⁹ For instance, to suppress the revolt of Netherlands in 1567, the Duke of Alba used an unprecedented 9,000 men and 1,600 cavalry, but during the height of the Thirty Years War in 1631-2 Gustavus Adolphus and Wallenstein each commanded an army in excess of

100,000 men.¹⁰ As the size of the armies grew, the existing methods of supplying had to undergo its own revolution, as it could not supply the ever-growing armies.

Supplying the large armies that resulted from the Revolution in Military Affairs was not difficult as long as the armies remained stationary in friendly territory. In garrison, the local population usually established local markets to provide the soldiers with their provisions. These were generally ad-hoc arrangements set up on a voluntary basis, as these soldiers were effectively mercenaries who were responsible to equip and house themselves from the pay they received.¹¹ It was only in a time of limited supplies or when the army operated outside of its permanent station that this system did not work. Mainly due to poor administrative practices, it was difficult to organize and establish markets in front of moving armies in the late sixteenth century. As a result, these moving armies would occasionally regress into marauding bands of armed men in search of supplies.¹²

Seventeenth century governments began to provide their soldiers with the basics of military life to include food, fodder, weapons, and clothes to overcome the dissolution of their forces.¹³ First implemented by Maximilien de Bèthune, France's Minister of War to King Henry IV, automatic deductions from a soldier's pay were used to acquire provisions from contracted sutlers.¹⁴ The governments, in order to overcome the financial burden of these larger armies, developed the "contributions system" in which commanders would move their armies around neutral or enemy territory to extract money from the local population to pay their army with.¹⁵

However, the contribution system as practiced throughout the Thirty Years War (1618-1648) proved unsustainable. The decline in the population and the destruction of land was so complete in Central Europe by the late 1630s that there was not enough food or money to sustain a large army.¹⁶ Additionally, having to keep armies on the move also had the unintended effect

of driving a nation's strategy, as demonstrated by Gustavus Adolphus' invasion of Pomerania in 1630. Unable to feed his army, this Swedish general spent the first year of his invasion investing German towns and marching his army in search of supplies instead of liberating Germany and its Protestants from the Holy Roman Empire as he intended.¹⁷ Armies late in the Thirty Years War were often unable to concentrate due to the lack of supplies, and fighting regressed to mainly cavalry raids in search of supplies as had occurred in the Middle Ages.

Preventing wars from regressing to an earlier era was the work of two Frenchmen, Michel le Tellier and his son François-Michel le Tellier, Marquis of Louvois.¹⁸ Acting as France's Minister of War in the late seventeenth century, Michel le Tellier instituted many military reforms to include the establishment of a chain of supply magazines. To ensure a ravaged country did not frustrate military operations as they had done in the Thirty Years War, he recommended the establishment of numerous magazines in strategically important towns and fortresses during times of crisis.¹⁹ His system of logistics centered on the idea that these magazines were to maintain a fifteen days reserve of provisions used to supply fielded forces during times of emergency by commercial carriers.²⁰ Tellier also established appropriate rules and administrative procedures to help deduce the requirements of the army prior to a campaign. An appointed government official, titled *général des vivres*, administered and inspected Tellier's greatly enhanced logistic system.

Tellier's son, Louvois, would expand his father's logistic system by turning the supply depots into permanent fixtures. In addition to making the supply magazine system permanent, Louvois created two types of magazines. The first type, known as *fortes du roi*, provisioned strategically important towns and fortresses along France's frontier with six months of food and fodder to withstand sieges.²¹ More innovative was the second type of new magazine called the

magasins gènèreaux, designed to meet the requirements of the field armies as they embarked on campaigns outside of France's borders. The importance of this type of magazine was twofold, the first being that it enabled an unencumbered army to rapidly move to its point of departure and then obtain all of the supplies they needed for the campaign. The second advantage was that the *magasins gènèreaux* enabled France to maintain operations security by avoiding the sudden and large war material purchases required of a campaign, which enemy spies, and informants would pick up on.

The *magasins gènèreaux* was essentially an extension of the long practiced *étapes* system. As far back as the fifteenth century, French law stipulated the way military units would transit and billet in the interior of France. Furthermore, the law designated what routes the military could use and specified the maintenance standards the roads were held to.²² Also, the *étapes* system allowed a regiment to only stay one night at each town along its route; except for the one-day of week of rest they received.²³ As a military unit transited these designated towns, they would draw supplies from a locally appointed *étapier*.

Louvois would refine the *étapes* system by codifying that province governors were to be notified three days in advance of the arrival of a contingent of troops as well as their size, requirements, and travel plans.²⁴ He also standardized what items an individual soldier was to receive at each stop to include pot, bowl, glass, candle, and a place by the fire.²⁵ Lastly, Louvois took the responsibility of managing the requisition of supplies, arranging billeting, and paying the bill for services rendered in each province from locally appointed *étapiers* to state appointed *intendants* in an attempt to standardize the process and reduce corruption.²⁶

Nevertheless, Louvois made no innovations in the transportation of provisions from the supply magazines to the military camp. Locally requisitioned vehicles, contracted teamsters, and

rented barges were the normal methods employed to move provisions.²⁷ However, he made other innovations such as providing every soldier a daily ration of food free of charge, and established that two pounds of bread, or hard biscuit, with some sort of protein was the standard ration. In total, these Louvois' innovations increased freedom of maneuver for France's army within its borders, eased logistical planning, and provided a supply source to extend the length of the campaign season.

Although Louvois' innovations greatly enhanced the logistics systems of the seventeenth and eighteenth century, it was not without its limitations as it was not a complete system. Once the armies of the *ancien régime* moved beyond France's borders, and subsequently their supply magazines, they once again had to live at their enemy's expense. This was mainly due to the purpose of war during the seventeenth and eighteenth century. Wars were regarded as the personal feuds between the sovereigns for limited gains and purposes such as obtaining a small tract of land, maintaining the status quo, or for reasons of honor. Even if a battle did not occur, the invader would obtain some benefit because it would be living at the expense of the enemy.²⁸ Sometimes this exploitation could be ruthless in the form of plunder or according to the contribution system.

After 1659, contributions became an integral part of France's fiscal base for war.²⁹ Administered by agents of the king, and enforced by the military, they collected regular and calculated sums determined by central civil representatives.³⁰ French officials determined the levy based on the prewar tax rolls of the country occupied. The levying of contributions served to mobilize the resources of the occupied territory to support the war effort of the French monarchy.³¹ The contributions system filled the gap between the resources France raised

internally and their requirements, and approximately 25 percent of the *ancien régime*'s annual military expenditures came from this method.³²

Logistics by the contribution system, the *étapes* system, and Louvois' magazine system were effective at supplying the armies of *ancien régime* and little changed until the start of the French Revolution in 1792. To protect the revolution against the enemy states of the *ancien régime* required the massive mobilization and organization of the whole country of France for war and was instituted by the Jacobins' *levée en masse* policy of 1793.³³ This policy, combined with the spirit of the revolution enabled the Jacobin government to raise an army of eight hundred thousand and led to a state-supervised war economy in which every citizen supported the defense of the country.³⁴ However, the governments of France had no experience in recruiting the large-scale armies of the revolution or managing the logistical system such an army required.³⁵ The rapid expenditures of money to equip the military, and the decrease in production of food and goods, as civilians turned soldiers were now unavailable to work, produced rapid inflation and wrecked France's economy.³⁶

France's military logistic program collapsed without the means of paying its contractors for the goods and services it needed and as a result the magazine system disappeared.³⁷ It fell then to the Jacobins to then assume greater public control of the economy and supply of the military.³⁸ In May 1793, they introduced the Law of the Maximum to control the prices of essential commodities and force government contractors to accept payment in paper currency back by land called *assignats*.³⁹ Requisitions and compulsory purchases soon followed forcing France's citizens to sell a portion of their crops or goods to the military at a fixed price.⁴⁰

The Convention also assumed more control of the organizations used to oversee the supply of the military. First, they established the *commission du commerce et des*

*approvisionnement*s to ensure the military received adequate supplies of food and basic equipment, and then the *commission des transports* to ensure sufficient carts for army convoys were available.⁴¹ Overseeing the new state run logistical system was 390 appointed *commissaire des subsistances*, essentially an updated version of the *ancien régime's commissaires des guerres*. However, once significant update was that these appointees had to have military supply experience as either a sergeant major or quartermaster to hold this position.⁴²

The problems of supply would not ease with the new logistical systems of France's revolutionary governments. The enormous revolutionary armies required a vast amount of supply in food, wood, and fodder, and the *commissaire des subsistances* simply could not produce the amount of material needed and no new policy or administration system could produce provisions that did not exist to meet their needs.⁴³ As transport was never sufficient to meet the demand of the military, local requisitioning was the only way they had to supply the army. In some cases, the army caused extreme misery and deprivation among villagers, as was the case in Pyrénées-orientales where 40,000 troops competed for bread with a local population of 125,000.⁴⁴ Because of this, the populations burdened by a military presence often felt that they shared a disproportionate amount of the burden of supplying the army.

Even when the wars of the French Revolution expanded onto foreign territory, the problem of supply was only merely exported. The Committee of Public Safety, to alleviate the problem, ordered its commanders to procure the food and goods it needed from the territories they occupied. As much as possible, like the contribution system before the French Revolution, the war would be fought and paid for by the defeated nations of France, and it would be their responsibility to maintain and supply the French armies occupying their land. In short, victory

would provide France with the money it direly needed for the government to function, and supply the armies it could not.

In 1796, Napoleon took command of the *armée d'italie*, at Nice and would find his army of 96,000 in terrible condition. Proclaiming, "Soldiers, you are naked, you are starving ... Rich provinces, great cities will be in your power; you find there honor, glory, and riches," Napoleon motivated his army to both win the Italian Campaign of 1796-97 and used that victory to supply his army.⁴⁵ Extracting an indemnity of gold and silver coin, Napoleon paid his troops the first real money they had received in years; as opposed to the worthless *assignats* they normally received.⁴⁶ Also, he used the proceeds to purchase clothes, food, and other goods his army direly needed. Additionally, Napoleon's victories during the Italian campaign enabled him to send millions of *francs* worth of bullion back to Paris to help keep the Directory solvent.⁴⁷ Certainly, Napoleon had followed the Committee of Public Safety's direction to provide his army through conquest, but he also learned that France's centralized logistical system was inefficient and largely incapable of supplying the needs of the military.

Understanding that France's revolutionary government would be unable to supply his army influenced the way Napoleon conducted warfare. For instance, even though eighteenth century warfare favored sieges, Napoleon understood that it presented him with endless logistical problems that were best to be avoided.⁴⁸ Furthermore, he realized that concentrating his army for an extended period of time would also be difficult, so Napoleon would favor warfare that quickly concentrated his forces to fight a decisive battle to defeat an enemy in its entirety.⁴⁹ To carry out this form of warfare, Napoleon would have to modify the existing methods of supply. Napoleon's 1805 Ulm-Austerlitz campaign demonstrates how Napoleon understood the

logistical system of the eighteenth century but used his military genius to modify it to suit his needs.

While the armies of 1805 were Napoleon's greatest, the government's military administration had changed little since the Jacobins' reforms were instituted creating an unwieldy supply system.⁵⁰ All questions of military administration, to include feeding and equipping the army, were now the domain of the Ministry of War domestically, but this responsibility would transfer to the army's Intendant General once they crossed the border.⁵¹ When the transfer of authority occurred and to whom, due to the highly mobile character of Napoleon's *grande armée*, proved difficult to determine and created breakdowns in the supply system.⁵² To remedy this, Napoleon began to make his own supply arrangements, sometimes by putting that responsibility on commanders whom he deemed unsatisfactory on the battlefield.

Having decided to go to war with Austria in late August 1805, Napoleon needed to move his entire army from Boulogne toward the Rhine River, and the plan he developed to accomplish this demonstrates how he drew upon and modified the *ancien régime*'s logistical practices to develop his own method of supply. Napoleon, with the help of his chief of staff, Louis-Alexandre Berthier, developed a scheme of maneuver that resembled that of the *étapes* system. Provisions, according to this plan, would be distributed along the route of march every two or three days to feed the army, and requests made for the cooperation of local authorities.⁵³ In areas that transitioned friendly or neutral territory, *ordonnateurs* traveling ahead of the army would make detailed logistical arrangements to avoid over burdening or plundering these areas.⁵⁴

The arrangement for the food to be delivered in advance of the *grande armée* was well planned out. The head of the Ministry of war, Jean-François-Aime Dejean, was tasked directly by Napoleon to procure and distribute 700,000 biscuit rations along the route of the army's

advance. This, with the four days of bread they were to depart Boulogne with, was enough to supply the 116,000 main body of the *grande armée* for the 14 day march.⁵⁵ While the plan was sound, in execution only about 380,000 rations were prepared and delivered in time for the army to utilize them. Additionally, the number of carts required for this operation, approximately 4,500, either failed to materialize or were delivered to the wrong place leaving only one-fifth of the requirement available when the army departed Boulogne. The transition of troops across France went well despite these difficulties, but Napoleon's horses suffered immensely for the lack of fodder, as there was an insufficient amount to purchase or not enough time enroute to harvest it.⁵⁶

After crossing the Rhine River on 29 September, Napoleon used a modified contribution system to supply his army. In this arrangement, each division's *ordonnateur* would inform the local authorities the number of men and horses to be fed as well as fixing the time and place the supplies were to be delivered.⁵⁷ The *ordonnateur*, unlike the previous French implementation of the contribution system, would give each supplier a receipt for which they could be repaid from the French treasury with. Napoleon believed that merely requisitioning the required items would turn the population against him and make his campaigns more difficult.⁵⁸ However, if not enough goods were delivered at the specified time they would be requisitioned, and this why Napoleon's method is considered a modified contribution system. In practice, this system succeeded when the army was dispersed over a 100-mile front, as Napoleon's commanders were able to requisition large quantities of goods. For instance, Marshal Louis-Nicolas Davout reported that he had built a 6 to 9 day reserve of food.⁵⁹

As the *grande armée* approached the Danube River and the enemy army around 9-12 October, it had to concentrate to a more restricted frontal area of 45 miles, which over-burdened

the local area for supply.⁶⁰ Fortunately for Napoleon's forces, it captured Austrian supply magazines at Memmigen, Freidberg, and Augsburg, Donauwörth, and Saldmünchen to make up for their short fall in supplies. Realizing the risk of having to rely on captured enemy stores for supply, Napoleon created the last part of his system of supply as he ordered a supply magazine be established at Augsburg with a reserve of 3,000,000 rations; enough to feed his army for 18 days.⁶¹ The implementation of a centralized supply depot by Napoleon suggests that he was familiar with Louvois' magazine system and probably became aware of it in his early days of military service.⁶²

Napoleon would continue to use his ad hoc magazine system by establishing more of them on his advance to Vienna at Haag and Braunau.⁶³ Combined with the use of his modified contribution system and the large stores of material obtained at Vienna; Napoleon was able to adequately supply his army until late November. As the *grande armée* moved further away from France, and its supply depots, it again began to experience supply difficulties due to its lack of transport vehicles.⁶⁴ On 2 December Napoleon defeated Czar Alexander at Austerlitz, which brought the campaign to a close and alleviated the Emperor's supply difficulties.

Learning from the supply difficulties he experienced during his Ulm-Austerlitz campaign Napoleon continued to refine the logistic system he improvised in 1805. For efficiency, he replaced French contractors with German, and attempted to make better use of the Danube River and other waterways in transporting supplies.⁶⁵ The soldier's of the *grande armée* carried a larger reserve of food in case circumstances interrupted the flow of supplies during the 1806 Jena-Auerstädt campaign.⁶⁶ In 1807, to supplement the civilian transport contractors, Napoleon established a seven-battalion military transportation service, the *Train des Équipages*. Each

battalion consisted of 600 wagon teams who were capable of delivering supplies directly to the battlefield.⁶⁷

Due to the deteriorating relations with Czar Alexander after he ended compliance with the Continental System in 1810, the Emperor began taking measures to protect France in case a war with Russia erupted. While Napoleon's supply system had proved to be sufficient while his army was on the move, as both the supply train and contribution system could both supply the *grande armée*, it often was unable to provision the army adequately if it delayed in one spot too long. This was because the local supply of goods would be quickly consumed, and the *train des équipages* were never large enough to completely supply the army from the established supply magazines. Any prolonged delay combined with any other type of difficulty impeding the supply trains would put the *grande armée* in a difficult situation as both elements of Napoleon's system would be operating at less than full capacity. Napoleon, attempting to remedy this, increased the size of the *train des équipages* to twenty-six battalions capable of carrying 9,200 tons of material approximately 10 miles a day.⁶⁸

Besides increasing the size of his transport service in preparation for war with Russia, Napoleon also ordered the creation of nine supply magazines from Warsaw to Königsberg. One such depot in Danzig contained enough subsistence to last 400,000 men and 50,000 horses for 50 days. The emperor also divided Germany and Poland into three military districts, and set up five main supply routes running from the Rhine to Vistula, the assembly area for the invasion of Russia.⁶⁹

Despite the extensive logistical planning Napoleon undertook in preparation for his eventual invasion of Russia, he knew that his supply system could not support his 675,000-man army for very long.⁷⁰ As historian Martin van Creveld calculated, even if a third of Napoleon's

army reached Moscow, it would require 18,000 tons of material a day, or twice of what the *train des équipages* could deliver, and all of it would have to be delivered by supply train as that large of force would quickly consume all the food and fodder in the area.⁷¹ Because of this, Napoleon planned on and counted on a quick victory in which the right wing of his army would swing behind the 1st Russian Army preventing them from retreating and forcing them to fight a decisive battle. Also, indicating that Napoleon counted on a quick victory was that he ordered 18 days of provisions with a 6-day reserve ration accompany his soldiers indicating that he expected only the conflict to last two weeks; before the *grande armée* used its initial supply issue and became dependent on his supply system.⁷²

The quick victory for Napoleon was not to come to fruition because of the blunders of his subordinates, mainly from his brother Jerome who numerous delays prevented his army from surrounding the 1st Russian Army. Finding himself at Vitebsk, the furthest point in his supply system that Napoleon felt it could adequately supply him; he paused to consider the possibility that he could successfully bring the Russians to the decisive battle. Vacillating between the choices of remaining in Vitebsk for the winter, retreating, or advancing, Napoleon selected the latter option believing that Russian winters were not as bad as General Armand de Caulaincourt, the French Ambassador to Russia, led him to believe.⁷³ Knowing this, and hoping he could force the Russians to a decisive battle; Napoleon extended the length of his campaign longer than he knew his supply system could support. Essentially, Napoleon let his desire for conquest override his thought that the invasion all the way to Moscow was unsound.⁷⁴

As the *grande armée* moved towards Moscow supplies were brought forward and large depots established in Vilna, Minsk Kovno, Smolensk, Orsha, and Vitebsk. However, supplies from the rear were slow to reach the front because frequent thunderstorms turned the roads into a

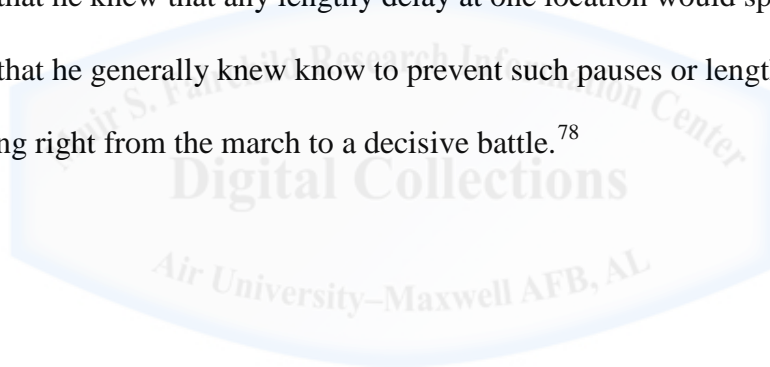
quagmire, and the harsh Russian roads frequently, yet temporarily, broke the axles of the supply carts. Compounding this problem was that many soldiers of the *grande armée* discarded their reserves of food and cold weather gear early in the campaign rather than carrying for what they also believed would be a short campaign.⁷⁵ Additionally, the discipline among the foreign contingent of the army was lax resulting in indiscriminate pillaging, driving away the population that could bring in the supplies required by the army. Additionally, the retreating Russia army had already consumed or destroyed a large portion of the available supplies along the invasion route.⁷⁶

With Russia refusing to accept defeat, even after Borodino and the occupation of Moscow, and with the Russian winter preventing him from obtaining the proper provisions, Napoleon was forced to retreat. Knowing that his supply trains could not supply him with enough goods as he retreated from Moscow, Napoleon attempted to retreat on a route more southern than his invasion route had been in an attempt to have a new area from which to seek contributions from. However, after fighting an engagement with the Russians at Maloyarislavets, Napoleon was forced back to his original invasion route. This proved disastrous as the harsh Russian winter set in, both the French and Russian armies had already stripped the land of provisions, and Russian Cossacks constantly harassed and slowed down his supply trains. The lack of supplies further hindered the discipline of the *grande armée*, which essentially disintegrated as it retreated from Moscow.

It is estimated that Napoleon lost 570,000 men and 200,000 horses during the campaign.⁷⁷ Because Napoleon knew the limitations of his supply system, the blame for his Russia campaign must be attributed to his constant belief that he could force the Russians to a decisive battle despite the late campaign season. Contributing to the failure of the campaign was

the extremely harsh weather conditions Napoleon's army experienced, the Russian victory at Maloyarislavets, and the lax discipline of his troops whose pillaging prevented the contribution system from being effective.

Examining Napoleon's military education, knowledge of current logistical practices, and his Ulm-Austerlitz and Russia campaigns reveal that he had learned the craft of logistics mainly through practical military experience with the existing supply methods employed by the *ancien régime*. Specifically, Napoleon combined and improved upon the supply methods of the *étapes* system, Louvois' magazines, and the contribution system to form a complex logistical system capable of supplying the *grande armée* for a limited duration. Perhaps, part of Napoleon's genius might be that he knew that any lengthy delay at one location would spell disaster logistically, and that he generally knew how to prevent such pauses or lengthy campaigns from occurring by going right from the march to a decisive battle.⁷⁸



1. Clausewitz in *On War* suggests that the failure of countless campaigns has been falsely attributed to the difficulties of supply. Even though he uses the 1812 Russia Campaign as an example to show how neglect over supplies can lead to such disasters, he also says that was not the only reason for this campaign's failure. It seems that many historians have looked at what Clausewitz wrote and assumed that Napoleon completely disregarded logistics throughout his career without doing their own research and perpetuated the myth that he simply had his armies "live off the land."

Carl von Clausewitz, *On War*, ed. Michael Howard & Peter Paret (Princeton, NJ: Princeton University Press, 1976), 339.

2. Charles Esdaile, *Napoleon's War: An International History, 1803-1815* (New York, NY: Penguin Group, 2008), 19.

3. Louis Antoine Fauvelet de Bourrienne, *The Complete Memoirs of Napoleon*, ed. & trans. R.W. Phipps (New York, NY: Charles Scribners & Sons, 1892), Reader e-book location 440.

4. Owen Connelly, *The Wars of the French Revolution and Napoleon, 1792-1815* (New York NY: Routledge, 2006), 10.

5. In the seventeenth century, apprenticeship as a subaltern was a common method for training French officers. These future officers would learn their craft under the watchful eye of more experienced men. The massive army created by King Louis XIV, known as the *Grande siècle*, would send future officers to fight in Dutch or Swedish armies to gain experience. Under François-Michel Le Tellier, Marquis of Louvois, France's Minister of War until 1685, France created a short-term program in which future officers were trained in cadets companies for one year before being sent to line companies. It does not appear from the sources used for this paper that Napoleon served as a subaltern or in a cadet like company.

John A. Lynn. *Giant of the Grand Siècle: The French Army, 1610-1715* (Cambridge, NY: Cambridge University Press, 1997), 270.

6. Esdaile, *Napoleon's War*, 20.

7. The lone example of a Roman general writing about supply was Ammianus Marcellinus, a soldier who climbed through the ranks. However, his writings emphasized the importance of keeping their hunger and thirst quenched to ensure they would fight well and not how to make it happen. Frederick the Great's "Instructions to His Generals" includes a detailed account of using supply magazines and contractors to supply an army, but I am uncertain if Napoleon had read it. Also, France was already using a similar magazine system prior to the Revolution in 1792, and it seems Napoleon would have learned what Frederick had written in much more detail once he graduated the military academy and joined the regular army.

Edward N. Luttwak, "Logistics and the Aristocratic Idea of War," in *Feeding Mars: Logistics in Western Warfare from the Middle Ages to the Present*, ed. John A. Lynn (Boulder, CO: Westview Press, 1993), 6.

8. Ibid., 6-7.

9. Geoffrey Parker, *The Military Revolution: Military Innovation and the Rise of the West, 1500-1800*, 2nd ed. (Cambridge, NY: Cambridge University Press, 1996), 54.

10. Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton*, 2nd ed. (Cambridge, NY: Cambridge University Press, 2004), 5.

11. Ibid., 6.

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12. John A. Lynn, "The History of Logistics and Supplying War," in *Feeding Mars: Logistics in Western Warfare from the Middle Ages to the Present*, ed. John A. Lynn (Boulder, CO: Westview Press, 1993), 10.
 13. Creveld, *Supplying War*, 8.
 14. Ibid., 8.
 15. Parker, *The Military Revolution*, 64.
 16. Creveld, *Supplying War*, 17.
 17. Ibid., 17.
 18. Ibid., 17.
 19. Ibid., 17.
 20. Ibid., 17.
 21. Ibid., 21.
 22. Lynn, *Giant of the Grand Siècle*, 140.
 23. Ibid., 133.
 24. Ibid., 133.
 25. Ibid., 137.
 26. Ibid., 137.
 27. Creveld, *Supplying War*, 21.
 28. Ibid., 27.
 29. John A. Lynn, "Food, Funds, and fortresses: Resource Mobilization and Positional Warfare in the Campaigns of Louis XIV," in *Feeding Mars: Logistics in Western Warfare from the Middle Ages to the Present*, ed. John A. Lynn (Boulder, CO: Westview Press, 1993), 143.
 30. Ibid., 144.
 31. Ibid., 144.
 32. Ibid., 144.
 33. Wolfgang Kruse, "Revolutionary France and the Meanings of Levée en Masse," in *War in an Age of Revolution, 1775-1815*, ed. Roger Chickering and Stig Förster (Washington, DC: Cambridge University Press, 2010), 310.
 34. Ute Planert, "Innovation or Evolution? The French Wars in Military History," in *War in an Age of Revolution, 1775-1815*, ed. Roger Chickering and Stig Förster (Washington, DC: Cambridge University Press, 2010), 74.
 35. Alan Forrest, *Soldiers of the French Revolution* (Durham, NC: Duke University Press, 1990), 125.
 36. Alan Forrest, "The Logistics of Revolutionary War in France," in *War in an Age of Revolution, 1775-1815*, ed. Roger Chickering and Stig Förster (Washington, DC: Cambridge University Press, 2010), 178.
 37. Ibid., 181.
 38. Ibid., 182.
 39. Ibid., 182.
 40. Ibid., 182.
 41. Carl von Clausewitz, *The Campaigns of 1812 in Russia*, trans. George F. Nafziger (Novato, CA: Presidio Press, 1992), 252.
 42. Forrest, *Soldiers of the French Revolution*, 133.
 43. Ibid., 137.
 44. Ibid., 130.

45. Connelly, *The Wars of the French Revolution and Napoleon*, 81.

46. Owen Connelly, *Blundering to Glory: Napoleon's Military Campaigns* (Wilmington, DE: SR Books, 1999), 28.

47. *Ibid.*, 48.

48. Creveld, *Supplying War*, 42.

49. *Ibid.*, 40.

50. *Ibid.*, 43.

51. *Ibid.*, 42.

52. *Ibid.*, 43.

53. *Ibid.*, 45.

54. *Ibid.*, 45.

55. *Ibid.*, 49.

56. *Ibid.*, 46.

57. *Ibid.*, 52.

58. *Ibid.*, 53.

The Duke of Marlborough had used a similar contribution system in Bavaria in 1704. I am unsure whether Napoleon was aware of this. The differences in the two systems appears to be that Napoleon did this to keep the local population from being hostile, while Marlborough really had no other choice. Marlborough did not have any additional method to supply himself, and for tactical and strategic reasons had to keep his army moving, and simply purchasing "his way forward" was the most expedient way to achieve his objectives. Marlborough's system would still be classified as being a contribution system because one of his intended aims at marching all over Bavaria purchasing and consuming food was to deny it from his enemy.

Creveld, *Supplying War*, 29-32.

59. An example of the *ordonnateurs*' success in utilizing Napoleon's contribution systems is their obtaining from the 16,000 people of Heilbronn, 85,000 bread rations, 24,000 pounds of salt, 3,600 bushels of hay, and many other essential materials. Creveld, *Supplying War*, 54.

60. *Ibid.*, 55.

61. *Ibid.*, 56.

62. *Ibid.*, 72.

63. *Ibid.*, 60.

64. *Ibid.*, 72.

65. Joseph Sinclair, *Arteries of War: A History of Military Transportation* (London, UK: ASPEN Publishers, 1992), 5.

66. Creveld, *Supplying War*, 71.

67. John R. Elting, *Swords Around a Throne: Napoleon's Grande Armée* (London: UK: Da Capo Press, 1988), 564.

68. *Ibid.*, 566.

69. Nigel Nicolson, *Napoleon 1812* (New York, NY: Harper & Row Publishers, 1985), 33-34.

70. Different sources give different numbers for how many soldiers of the twenty-nation *grande armée* were involved in the Russia. Nicolson lists several different historians estimates on the size of the French army that was involved in the campaign, but believes that David Chandler's *Campaigns of Napoleon* is the best estimate. Chandler numbers include the garrison,

administrative, and engineer troops as well as the replacements that would join the army in intervals.

Nicolson, *Napoleon 1812*, 26.

71. Crevel, *Supplying War*, 64.

72. Ibid., 64.

73. Caulaincourt advised Napoleon at both Vitebsk and Smolensk to stop the campaign for the winter, as the Russian winters were extremely inhospitable. According to Nicolson, Napoleon generally trusted Caulaincourt's advice except on this matter as he believed the French troops were tougher than the Russian soldiers and that the winter could not be as harsh as the Russian Ambassador said it was.

Nicolson, *Napoleon 1812*, 49 & 55.

74. The farther Napoleon was drawn into Russia, the more he had to commit to forcing a decisive battle. As Emperor, he knew that he could not effectively lead the French government in a winter camp over a thousand miles from Paris. He was also worried that Russians would have time to fully mobilize and defeat him if he stopped the campaign for the winter. Lastly, he felt that if he stopped the campaign for a winter it would be perceived as a sign of weakness against his enemies and give them a reason to attempt to remove him from power or attack France.

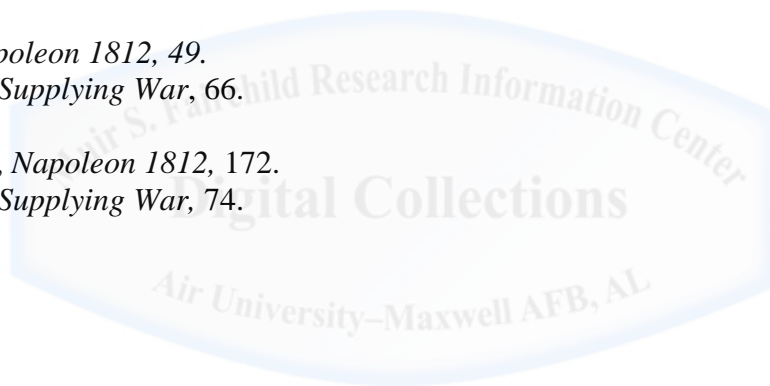
Nicolson, *Napoleon 1812*, 49.

75. Crevel, *Supplying War*, 66.

76. Ibid., 74.

77. Nicolson, *Napoleon 1812*, 172.

78. Crevel, *Supplying War*, 74.



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